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ABSTRACT

The materials employed in this investigation were 769 translations from Swedish into English made by Swedish university students studying English. The principal objective was to study aspects of learner behavior (in treating English word order) to obtain information about the types of errors Swedish students commit in English production and attempt to explain the causes of them. It is hoped that such information will be useful in the preparation of instructional materials, as well as in fostering constructive re-evaluations leading to improved teaching methods. The approach of this investigation has been both theoretical and practical in nature. As a point of departure, a simplified form of contrastive analysis of the Swedish texts and model English translations was carried out. Information obtained in this way was used in predicting potential difficulties for Swedish learners of English and in hypothesizing errors that Swedish learners of English could be expected to commit. The hypotheses were later followed up by empirical research involving observations of learner behavior. Actual errors occurring in the student translations were recorded, analyzed, and classified taxonomically. Finally, attempts to explain the students' errors were made, and in these attempts knowledge about the two grammatical systems, Swedish and English, was utilized. (Author)

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DEPARTMENT OF ENGLISH

LUND UNIVERSITY

SWEDISH – ENGLISH CONTRASTIVE STUDIES

Report No 2

Word Order Errors

by

Ulla Carlbom

FL009612

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1 OUTLINE

The material employed in this investigation has been 769 translations from Swedish into English made by Swedish university students studying English. The principal objective has been to study aspects of learner behaviour (in treating English word order) to obtain information about the types of errors Swedish students commit in English production and attempt to explain the causes of them. It is hoped that such information will be useful in the preparation of instructional materials as well as in fostering constructive re-evaluations leading to improved teaching methods.

The approach of this investigation has been both theoretical and practical in nature. As a point of departure, a simplified form of contrastive analysis of the Swedish texts and model English translations was carried out. Information obtained in this way was used in predicting potential difficulties for Swedish learners of English and in hypothesizing errors that Swedish learners of English could be expected to commit.

The hypotheses were later followed up by empirical research involving observations of learner behaviour. Actual errors occurring in the student translations were recorded, analysed, and classified taxonomically.

Finally, attempts to explain the students' errors were made, and in these attempts knowledge about the two grammatical systems, Swedish and English, was utilized.

2 MATERIAL AND METHODS

2.1 STATUS OF LEARNERS AND CORPUS

A total of 769 translations from Swedish into English have been examined. The translations were part of the language proficiency test given during the years 1970 and 1971 to all AB1[1] students at the Department of English, University of Lund. The translation test is given towards the end of the AB1 course when the students have one year of English studies at the university level behind them. In 1970 and 1971, seven different groups of students took the translation test on seven different occasions.

1	April	1970	150 students[2]
2	May	1970	98 students
3	August	1970	96 students
4	December	1970	118 students
5	January	1971	54 students
6	May	1971	153 students
7	August	1971	100 students

A new Swedish text with an average of 114 words to be translated into English by the students was supplied on each test occasion. On the test occasions in May and August 1970 and January and August 1971, students that had not received a pass mark on an earlier translation were permitted to participate. The language proficiency of the average student on these occasions was consequently on a lower level than that of the average student taking the test in April and December 1970 and May 1971. This ought to have important implications for error analysis in determining, for instance, hierarchical systems of errors (Slama-Cazacu 1971); but attempts to find evidence of this in the students' treatment of word order were not fruitful. I will return to this point later.

2.2 COLLECTION OF DATA

The errors were recorded on 4 x 6.5 inch cards, with one card for each error. Each card was supplied with:

A. a code comprising the date of the test occasion, the number of the translation, and the mark that the student had received on the translation;

B. the error given in its context.

Example:

71/May/44/11 p.[3]/

He had perhaps in the evening crept down ...

[He had perhaps crept down at night ...]

In examples of errors given in this paper, only errors in word order have been underlined. Some errors that were not errors in word order have been corrected in order to make it possible for the reader to understand the meaning of the sample; but on the whole, errors have been left uncorrected. The corrected versions of the entire samples have been placed inside square brackets whenever they occur in the body of the text and not in tables.

The code number, as exemplified above, made it possible to refer to the individual translations if necessary. The purpose of including the student's grade in the code was that it was hoped that it would be possible to establish examples of different learner systems of deviant English word order possessed by learners at various levels of target language proficiency (Nemser 1969 and Slama-Cazacu 1971). See, in addition, pages 9 and 10.

2.3 CLASSIFICATION

Errors recurring in the same translation have been counted each time, since the lexical context has always been different.

The classification has been based on the target language and, as far as possible, on the model translations of the seven different Swedish texts made by a native English speaker. But when the students have

deviated from the model and used different lexical material from that used in the model translations, it has sometimes been necessary to base the classification on an improved version of the error, as with the error in the example below, which was classified under end-positioned adverbs.

Model translation	Error [improved version]
For President Nixon	For Mr. Nixon, who is <u>today</u> president [For Mr. Nixon, who is president today]

The classification of errors has been problematic. It is difficult to reach a satisfactory and objective method for something that is in itself subjective. Passing judgement on what is correct and what is erroneous in usage and grammar is always hazardous[5], but more than ever when translations are involved, because then we are dealing with connotations and questions of interpretation, which differ from person to person. The virtues of descriptive and non-authoritative linguistics are indisputable, but, obviously, in teaching a second language, some kind of norm must be available as a guidance for teachers and students. I have classified as an error anything that may be a deviation from orthodox usage, and as a result, word order that would no doubt be acceptable to many native speakers has been classified as erroneous here. Therefore, this investigation ought to be followed up by a so-called tolerance test of the type set up by Johansson (1972b), in which informants decide on the seriousness of the errors. Information obtained in this way might be profitably exploited in the preparation of new teaching materials and result in grammars and examinations that are truly in accordance with current usage.

2.4 TOPIC

In delimiting my topic, I have applied the following principle: If it was possible to correct an error simply by a change of word order, it was included here. Thus, I have included an error like a British high official because it can be corrected by simply changing the order of the modifying adjectives. On the other hand, an error like the desk of Napoleon has been discarded as belonging to genitive constructions, and, consequently, as being beyond the scope of this study.

Predictions of possible errors and tabulations of actual errors have not been limited to any specific categories of word order errors. However, because of limited space, it was not possible to analyse in detail all categories of word order errors, and, therefore in analysing and attempting to explain errors, the main emphasis has been placed on the order of major sentence constituents[6]: subject (S), verb (V), object (O), complement (C). In the following treatment, objects have usually been included under the designation of complements. The distinction between object and complement has only been made when necessary.

2.5 SHORTCOMINGS OF THE CORPUS

The seven translation examinations that yielded the corpus for this investigation had not been especially designed for error analysis, let alone for an error analysis narrowed down to specialize on a certain topic such as word order. Each of the 769 students comprising the trial group had been provided with one of seven different Swedish texts to be translated into English, each containing an average of 114 words. The number of instances where knowledge of English word order was tested varied from test occasion to test occasion; but on the whole, it can definitely be said that the number of such instances was insufficient in providing a reliable corpus for

learner behaviour in treating English word order. Numerous aspects of English word order were left untested[7] or, at best, were inadequately tested, and thus the frequency figures summing up the findings of this investigation must be considered in this light. This will be discussed further below.

Furthermore, the samples of individual target language production, each consisting of slightly more than 100 words, as described above, were too small to be reliable or exhaustive in comprising a corpus, which, again, must be characterized as unsuitable for an empirical investigation of learner behaviour.

The group of trial subjects was a large and very heterogeneous group of university students of different ages, with different learning experiences, and with a varying extent of practical experience in the use of the target language. The only thing that they were known to have in common, for certain, was the one year of university instruction in the target language, and consequently too many factors concerning their linguistic background with respect to the source language[8] as well as the target language were unknown to make them really suitable as trial subjects in this kind of an investigation. With a more suitable corpus, error analysis[9] would, no doubt, be much more fruitful in providing systematic information on learner behaviour than the present investigation proved to be.

2.6 A DESIRABLE CORPUS

A desirable corpus would be large individual samples of target language production from a small homogeneous (homogeneous, that is, with respect to linguistic background) group of target language learners, whose target language production should preferably be followed up over several years. The examinations

yielding the corpus should be especially designed to test the topic under investigation. Provided the individual samples of target language production were large enough, it should be possible to achieve significant and systematic results giving evidence of learner behaviour that might be profitably exploited in the compiling of teaching materials and examinations. If it would prove impossible to follow up the observation of the learners for several years, another and perhaps better alternative would be to use several groups of learners at different stages of target language acquisition and compare the types of errors made by the different groups (Johansson 1972a, pp. 5,6).

2.7 A CORPUS CONSISTING OF TRANSLATIONS

A few more words must be said about the corpus in its capacity of translation examinations. When translations are used in testing, the students are limited in their target language production by the source language text, which also, to a large extent, determines the occurrence or non-occurrence of errors in different grammatical constructions in the target language production of the learners. The number and types of errors actually occurring in student translations must therefore in some way be placed in relation to the source language original text and its target language model translation. This has been done here, partly by contrasting the word order of the source language text with the word order of its target language model translation, and partly through an analysis of the word order of the target language model translation from the point of view of the target language grammatical system itself.

2.8 PREDICTING INTERLINGUAL DIFFICULTIES

"We know from the observation of many cases that the grammatical structure of the native language tends

to be transferred to the foreign language... We know that this transfer occurs very subtly, so that the learner is not even aware of it unless it is called to his attention in specific instances. And we know that even then he will underestimate the strength of these transferred habits, which we suspect may be as difficult to change when transferred as when they operate in the native language" (Lado 1957, p. 58). The phenomenon described by Lado is caused by interlingual difficulties due to differences between two linguistic systems.

In predicting interlingual difficulties, similar but less exhaustive methods than those favoured by contrastive analysts like, for instance, Robert Lado were used[10]. The comparison between the source language text and its target language model translation was made on the assumption that the proclivity on the part of the learners to commit mistakes will, to a high degree, depend on the potential lack of formal correspondence[11] between the source language original text and its target language model translation.

Contrary to the views of avid contrastive analysis protagonists, however, it was not assumed (Lee 1968, p. 186) that the learners' difficulties would equal the sum of the differences between the native language and the target language. Several factors other than difficulties caused by differences between the two languages might conceivably engender errors in the target language production of learners. One of those factors was conceived of as being intralingual interference.

2.9 PREDICTING INTRALINGUAL DIFFICULTIES

Through analysis of the target language model translations, difficulties within the grammatical system of the target language were predicted on the assumption that English word order that deviates from a

frequently occurring pattern of target language sequential organization is likely to cause intralingual interference, that is, interference between English structures in the target language production of learners. The tendency on the part of language learners to overgeneralize major grammatical rules is well known, and such tendencies usually result in hypercorrect constructions, which are typical of later stages of foreign language learning (Nemser 1969, p. 7).

Presentations of contrastive or interlingual difficulties are to be found in Tables 1, 2, 9, 10, 11, and 12. Intralingual difficulties as potential causes of errors are presented in Tables 3, 4, and 5. In the various tables, the frequency of errors actually occurring in each grammatical construction that had been predicted as causing problems for the learners has been reported. These figures, then, are indications of how the students managed to cope with the predicted problems.

With respect to the predictions of intralingual difficulties, it is, of course, not possible to predict these to the same extent as it is possible to predict interlingual difficulties; thus error analysis should be a particularly useful complement in discovering intralingual difficulties.

2.10 UNPREDICTABLE DIFFICULTIES

Other factors that might cause errors are, for instance, psychological factors or problems stemming from undesirable teaching methods. It seems to me that it would be impossible to predict how and when such circumstances will cause errors in the target language production of learners, and that the only possibility to come to grips with such problems is to analyse actual errors made by students and try to trace them back to their origin or cause. Theoretical methods like contrastive analysis will not do at this point,

so it becomes necessary to supplement contrastive analysis with empirical investigations of learner behaviour of the type called "lapsology" by Gerhard Nickel and other linguists associated with PAKS[12] in Stuttgart, but which usually goes under the name of "error analysis".

In its most ideal form, error analysis is a study of approximative systems (LA) as defined by Nemser (1969, p. 3): "An approximative system is the deviant linguistic system actually employed by the learner attempting to utilize the target language. Such approximative systems vary in character in accordance with proficiency level; variation is also introduced by learning experience ... communication function, personal learning characteristics, etc." Nemser (1969, p. 4) goes on to say that "... learner speech should be studied not only by reference to LS [source language] and LT [target language] but in its own terms as well."

3. MAJOR SENTENCE CONSTITUENTS

3.1 THE ORDER OF MAJOR SENTENCE CONSTITUENTS IN SWEDISH AND ENGLISH

Word order is an important grammatical device that is used both in English and in Swedish as a medium for expressing relationships between major constituents of sentences (Lado 1957, p. 62; Fries 1940, p. 247). In both languages the normal word order in simple declarative sentences is

$$S + V + \left(\left\{\begin{matrix} O \\ O\ (+C) \end{matrix}\right\}\right)^{13}$$

and in sentences of the type David helped Philip (Sw. 'David hjälpte Philip') word order is the only grammatical signal indicating actor and object of the action, respectively; a reversal of the positioning of David and Philip would also reverse the actor-object relationship (Lado 1957, pp. 62, 63; Sapir 1921, pp 87 ff.). But if the name Philip were exchanged for a pronoun, the form of the object, him ('honom') would suffice as a grammatical signal, and word order would become redundant[14]. This fact is sometimes exploited stylistically in Swedish for thematic reasons: In order to give prominence to the object in answering a question like Curt hjälpte John, men vem hjälpte Philip?, the object may be fronted as in the sentence Honom hjälpte David ('David helped him'; fronting of the object is not possible in this English sentence). However, the end-positioned subject David in the preceding Swedish sentence is more stressed than the object honom, and the former also provides the reader with new information.

Sentence elements providing new information are called rhematic elements as opposed to the "given" or thematic part of the sentence, and if the grammar of a language will allow it, it is usually stylistically effective to place rhematic elements in end positions and thematic elements in initial positions. Languages

differ as to what degree they allow the theme-rheme sequence in sentences, and it would appear that Swedish gives a little more freedom in this respect than English does. But English, too, may observe the theme-rheme principle in arranging sentence constituents[15].

Once a normally post-verbal element is transferred to initial position in a declarative sentence, Swedish and English are submitted to partially contrasting laws governing the subsequent positioning of subject and verb. The most frequent construction in Swedish is partial inversion as opposed to non-inversion in English. The expression "partial inversion" (Christophersen and Sandved 1969, p. 244), as used in this paper, should be understood as Aux + S + V in sentences with auxiliaries and as V + S in sentences without auxiliaries[16]. Full inversion, on the other hand, should be understood as (Aux +) V + S and non-inversion is, of course, S + (Aux +) V.

3.2 INTERLINGUAL DIFFICULTIES

3.21 POSITIONING OF SUBJECT AND VERB

In Table 1, there is a presentation of the occurrences in the corpus of declarative Swedish sentences of the type

$$\left\{\begin{matrix}A^{17}\\C\end{matrix}\right\} + \left\{\begin{matrix}Aux + S + V\\V + S\end{matrix}\right\}$$

and their English translation equivalents[18], which are sentences of the type

$$\left\{\begin{matrix}A\\C\end{matrix} +\right\} \; S + (Aux +) \; V.$$

In the Swedish sentences, the fronting of parts of the predicate triggers off partial inversion of the subject and verb, which is a word order typical of interrogative but not of declarative sentences in both languages. However, the fronting of parts of

the predicate does not affect the subsequent order of subject and verb in the English sentences, which remain non-inverted. The difference between the two languages, illustrated in Table 1, constitutes one of the major hurdles for Swedish learners of English in attempting to communicate in the target language at an elementary stage. But the heavy emphasis in teaching the general rule requiring non-inversion in declarative English sentences and the extensive applicability and generality of this rule are factors that contribute to making this a rule that one may expect advanced learners of the target language to have internalized. It is not surprising to find that the average learner at the university level has, in fact, done just that. As can be seen in Table 1, the frequency of errors in positioning subject and verb is very low.

Furthermore, the average number of error points of the students making the 27 errors in the nine sentences in Table 1 was 22 points, and it was mentioned earlier that the grade fail was given to students with more than 13 error points. However, not all students with a high number of error points made mistakes here. This supports Buteau (1970, p. 141), who writes that "... it seems realistic to assume that the greater the extension of a generalization, the more easily it is learned and applied, because it embraces a large number of similar cases ...". What may be expected to be more problematic at the particular stage of target language acquisition of these students, who are native speakers of Swedish learning English, are the exceptions from the major rule governing the formation of the sentences in Table 1.

The percentage given in parentheses in the various tables, which indicates frequency of errors, is based on the number of students participating on each test occasion and not on the total number of 769 examined translations.

Table 1. Fronting of adverbials and complements causing partial inversion in Swedish but not in English

	Source language	Unacceptable student production	Target language	Frequency of actual errors in positioning subject and verb
a.	I mer än två tusen år har London varit en viktig handelsplats.	For more than two thousand years has London been an important trading centre.	For more than two thousand years, London has been an important trading centre.	1/54 (1.9%)
b.	Under århundradenas lopp har Londons betydelse som hamnstad allt mer ökat.	In the course of the centuries has the importance of London as a seaport increased more and more.	In the course of the centuries the importance of London as a seaport has increased more and more.	1/54 (1.9%)
c	Först och främst måste detta sägas:	First of all must this be said:	First of all, this must be said:	1/118 (0.8%)
d.	I sista delen, "Till Sjöss", där Hudson är chef på en båt som jagar tyska ubåtar utanför Kuba, möter man många spännande scener.		In the last part, "At Sea", in which Hudson is skipper of a boat chasing German U-boats off Cuba, one comes across many thrilling scenes.	0/118 (0%)
e.	Är man intresserad av böcker, kan man genast se, om det som står där ...	If one is interested in books, can one see straight away ...	If one is interested in books, one can see straight away whether what is there ...	1/96 (1.0%)
f.	Av de större europeiska huvudstäderna var Englands den som sist skaffade sig ett eget universitet.	Of the major European capitals was England's the last ...	Of the major European capitals England's was the last to acquire a university of its own.	8/100 (8%)

Table 1. continued

	Source language	Unacceptable student production	Target language	Frequency of actual errors in positioning subject and verb
g.	För miljoner amerikaner är Hoover en legend.	For millions of Americans is Hoover a legend.	For millions of Americans Hoover is a legend.	2/98 (2.0%)
h.	För president Nixon, som sannolikt måste finna en efterträdare åt Hoover blir valet av ny FBI-chef ett av de viktigaste ...	For President Nixon ... will the choice of a new head for the FBI be one of ...	For President Nixon, who will probably have to find a successor to Hoover, the choice of a new head for the FBI will be one of the most important ...	10/98 (10.2%)
i.	Åtminstone en del av romanen skall Hemingway ha skrivit ...	At least part of the novel is Hemingway said to have written ...	†At least part of the novel Hemingway is said to have written ...	3/118 (2.5%)
			Total = 27	

† The erroneous fronting of the complement (see Table 2) resulted in three errors in the subsequent positioning of subject and verb. A total of 53 students placed the complement in initial position, and, consequently, a more accurate frequency figure for sentence (i) above would be 3/53 (5.6%).

As predicted, all errors in Table 1 appear to have been caused by native language interference, in that partial inversion,

$$\begin{Bmatrix} \text{Aux} + \text{S} + \text{V} \\ \text{V} + \text{S} \end{Bmatrix}$$

was used in declarative sentences instead of the correct non-inverted English sequence S + (Aux +) V. Thus, the 27 students produced erroneous sentences like *For more than two thousand years has London been an important ..., *First of all must this be said ..., and so on. It should be pointed out, however, that the Swedish interference did not go so far as to cause errors in sentence (d), which contains no auxiliaries and whose transitive verb in the simple present tense come across (used in the sense of 'encounter') does not, as far as I know, occur before the subject in standard English sentences. In interrogative sentences, which is the type of English sentence in which partial inversion is normally used, this verb must occur with do-periphrasis. Do-periphrasis is not needed in interrogative versions of the other sentences in Table 1 either, because the verb phrase is extended with an auxiliary or because the main verb itself can occur before the subject in interrogative sentences. It can thus be concluded that, although partial inversion of the subject and verb is a grammatical process used in both the source language and the target language systems, its distribution is not the same in the two languages (Lado 1957, p. 58), and that some of the test subjects have carried the native language distribution for partial inversion over into the grammatical system of the target language.

It may, however, be necessary to consider other sources of errors than native language interference in order to explain why some of the sentences in Table 1 were more difficult than others. Judging from the frequency figures, sentences (f) and (h)

gave rise to more problems than the other sentences. With respect to sentence (h), it is possible that the subject, the choice of a new head for the FBI, has been understood as being the object of the sentence, whereas the complement For President Nixon, who will probably have to find a successor to Hoover, has been mistaken as the subject. These misconceptions may well have been enforced by the fact that the antecedent, President Nixon, is immediately followed by the subject of its modifying clause. Although sentence (g) is of the same type as (h), C + S + V, the prepositional complement of (g) does not have the heavy modification that (h) has, and, consequently, sentence (g) ought to be syntactically less confusing and less difficult than (h). Certainly, the frequency figures may be cited as evidence of this, especially since both sentences occurred on the same test occasion, which means that eight students who successfully coped with the positioning of subject and verb in (g) failed to do so in (h).

But, on the other hand, workers in the field of psycholinguistics who uphold the theories of semantically based transformational grammars, and who feel that semantic factors play a more important role than structural ones in the comprehension of sentences, would probably be inclined to give semantic rather than syntactic reasons for the different frequencies of errors between sentences (g) and (h). They might argue that while Hoover is the semantically most likely subject in sentence (g), the semantic features of President Nixon and the choice, respectively, give priority to the former as a subject of sentences, and this in combination with the initial position of President Nixon in (h) resulted in that the ten erring students did not observe the ungrammatical structure of their sentences.

Generative semantics might prove to be very helpful in explaining why students make certain errors[19].

Perhaps the high frequency of errors in sentence (f) could be explained in this way as well, that is, by assuming that semantic relationships are more fundamental and essential than structural ones in the comprehension and recollection of sentences. Fillmore's case frames (1968), which have been adopted by Langendoen (1970, pp. 59-100) as role structures, might be profitably exploited as well in this way. Fillmore proposes that the notion case may be described as semantic relationships (agent, patient, instrument, location, etc.) that are universal and expressed in the base structure. Syntactic relations like subject and object are expressed only in the surface structures of different languages and are derived through transformations that are specific for individual languages. In making these transformations, then, it can be assumed that some of the students were reluctant to put England's of sentence (f) in the subject position in the surface structure, which is a position most frequently reserved for the case of agent.

The reasoning above is very tentative and incomplete, and even if it were not, it would be useful only to a point, namely in explaining the varying frequency figures of the individual sentences. The source of errors that was predicted for the nine sentences in Table 1 is still valid, because only native language interference can explain why partial inversion was used and not full inversion when students incorrectly inverted the subject and verb.

It is interesting that out of 96 participating students as many as 13 wrote *Are you interested in books (15) or *Is you interested ... (3) instead of the correct version of sentence (e). However, the 18 errors have not been included in my account of word order errors because this represents a word order pattern that does, in fact, exist in literary English in hypothetical clauses (Fowler 1965, p. 296)

of the type: Were you interested in books, you would ..., and it follows that the 18 errors ought to be analysed in an analysis of tense and aspects of English verbs rather than in a word order analysis.

3.22 POSITIONING OF COMPLEMENTS

As could be expected, there were no attempts to put himself in initial position according to the source language pattern in sentence (c) of Table 2, but three students separated the head Hoover from its emphasizing reflexive pronoun and put the verb in the middle as in the Swedish sentence, but in reversed order, as follows:

Hoover explained himself ...

This, again, represents a deviation that may not be wholly incompatible with English structure (Quirk et al. 1972, p. 967), but until a tolerance test can be carried out the three deviations have been classified as errors in the positioning of modifiers of nominals (see Table 12, p. 42).

The frequency of contrastive or interlingual interference in the positioning of complements is extremely high. On the two test occasions in which this category of word order was tested, about 45% of the participating students deviated from standard English usage and wrote: *At least part of the novel Hemingway is said ... and ?From the middle of the 17th century dates ... . From this, it can be inferred either that what is illustrated in Table 2 constitutes an inherently difficult category for Swedish learners of English or that this represents a category that has been neglected in the teaching situation. Certainly, the level of difficulty has something to do with the high frequency of errors in sentences (a) and (c) in Table 2, but it is my impression that the most important cause is ineffective teaching. The fact that the 77 students who were

Table 2. Fronting of complements and reflexive pronouns in Swedish corresponding to non-fronting in English

	Source language	Unacceptable student production	Target language	Frequency of actual errors
a.	Åtminstone en del av romanen skall Hemingway ha skrivit strax efter "Den Gamle och Havet".	At least part of the novel Hemingway is said to ...	Hemingway is said to have written at least part of the novel shortly after "The Old Man and the Sea".	53/118 (44.9%)
b.	Från mitten av 1600-talet daterar sig det berömda docksystemet, som sedan dess ständigt utbyggts.	From the middle of the 17th century dates the famous system ...	The famous system of docks dates from the middle of the 17th century and since then it has been continually enlarged.	24/54 (44.4%)
c.	Själv förklarade Hoover ...		Hoover himself stated ...	0/98 (0%)
			Total =	77

responsible for the errors have varying degrees of target language proficiency[20] has served to strengthen my impression. I believe that in the teaching situation there has been too much focus on the positioning of the subject and verb, as isolated from the rest of the sentence, at the expense of the sentence sequence as a whole. The students must be made aware of how the two languages differ with respect to fronting of parts of the predicate and what impact this, in turn, has in triggering off changes in the positioning of subject and verb in the respective languages. The positioning of subject and verb should be put into context and integrated into the sentence as part of the movements and pattern of the other sentence elements. No doubt, the development of transformational grammar in teaching will have a lot to offer in this respect.[21]

Again, it can be established that contrastive analysis has been effective in predicting difficulties and errors. All the errors in Table 2 were due to native language interference.

3.3 INTRALINGUAL DIFFICULTIES

3.31 POSITIONING OF SUBJECT AND VERB

Since inversion of subject and verb in declarative sentences is so very rare in modern standard English as opposed to Swedish, it must be considered good tactics to place emphasis in elementary teaching of English to native speakers of Swedish on the non-inverted declarative English sentence. This is the method used in Swedish schools, and because of this, the frequency of errors in Table 1 and (as will be seen later) Table 6 is very low.

Most of the inversion occurring in English declarative sentences is, in fact, not grammatical but stylistic, and therefore optional. However,

partial inversion triggered off by the positioning of negative or restrictive adverbials in initial positions, as illustrated by the two sentences in Table 3, is compulsory (Fowler 1965, p. 297). These sentences are from the test occasion in April 1970, which was the only test occasion in which knowledge of this particular grammatical category was tested. Slightly more than one third of the 150 student translations that were examined contained mistakes in both sentences. But it is possible that even fewer students than the figures disclose have knowledge of the English construction illustrated in Table 3 as part of their linguistic competence.[22] Some of the students may just have been lucky, because in these sentences the Swedish and English word order coincide. Consequently, the students may not have exercised any deliberate operations in the target language but simply carried the word order of the source language over into the target language. If the translation test had been designed especially to test knowledge of English word order, it might have been possible to determine which students have knowledge of this particular word order category as part of their linguistic competence. But since there were no examples of partially inverted declarative Swedish sentences with non-inverted English translation equivalents on the test occasion in April 1970, there is no way of knowing if some of the students who correctly used partial inversion in the two sentences in Table 3 would have used partial inversion according to the Swedish pattern in declarative English sentences demanding non-inversion as well.

There are many other things with respect to approximative systems that are unclear due to the shortcomings of my corpus. Why, for instance, is it that there is such a varying degree of target language proficiency among the students making the errors accounted for in Table 3? These students

Table 3. Fronting of negative adverbials causing partial inversion in the source language as well as in the target language

	Source language	Unacceptable student production	Target language	Frequency of actual errors in positioning subject and verb
a.	I inget annat land är pressen så "samlad" som här, ...	In no other country the press is ...	In no other country is the press so "concentrated" as it is here, ...	62/150 (41.3%)
b.	... och ingen annanstans är journalisterna så buss med varandra och samtidigt sådana konkurrenter.	... and nowhere else the journalists are ...	... and nowhere else are the journalists so friendly to each other and at the same time such rivals.	53/150 (35.3%)
			Total =	115

have a total of from 3 to 35 error points on their translations, which is something that I find bewildering. The fact that students with from 3 to 8 error points made mistakes in the construction, illustrated in Table 3, could be readily explained by assuming that these students used hypercorrect constructions. But the fact that students who had as many as 25 to 35 error points on their translations also used non-inverted English constructions here is not consistent with Nemser's theory of approximative systems (see p. 10).

Dušková (1969) discusses a terminology introduced by Corder, who distinguishes between mistakes that are errors in performance and errors that are due to defects in linguistic competence. In a paper read at the Department of English in Lund, Christina Stendahl has discussed three terms for different kinds of errors under a common heading of deviances:

1. slips illustrating oversights or lapses in the attention span on the part of the student during a test, resulting in an error that is due to performance and which does not reflect a defect in the linguistic competence of the student;

2. mistakes reflecting uncertainty on the part of the student as to the application of a certain rule. The student may have an inkling as to the existence of a rule, but has failed as yet to make it a stable component in his or her approximative system;

3. errors reflecting defects in the linguistic competence of the student and indicating that a student has not internalized a certain linguistic rule.

The fact that there were nine more errors committed in sentence (a) than in sentence (b) in

Table 3 might be profitably explained utilizing Stendahl's terminology. In keeping with it, the term error might thus be applied when students have used non-inversion consistently in both sentences, and the term mistake applied when students have alternated between the use of non-inversion and partial inversion in the two sentences. I have not distinguished between slips, mistakes, and errors in this paper mainly because my material was not designed to reveal distinctions of this kind. However, I would like to point out, here, the possibility of making such an investigation.

The high frequency of errors in Table 3 confirms the hypothesis posed earlier that learners of a language tend to overgeneralize major grammatical rules. The major rule that was overgeneralized in Table 3 is, of course, the rule demanding non-inversion of subject and verb in declarative sentences. Again, my results verify Buteau (1970, p. 139), who declares that "the probability of errors could not be assessed only from the degree of divergence of the two linguistic structures". The results, however, do not support Lado (1957, p. 59), who asserts that "... structures that are similar will be easy to learn because they will be transferred and may function satisfactorily in the foreign language. Those structures that are different will be difficult because when transferred they will not function satisfactorily in the foreign language and will therefore have to be changed.

"We can say that the degree of control of these structures that are different is an index to how much of the language a person has learned."

3.32 ADDITIONAL DIFFICULTIES IN POSITIONING SUBJECT AND VERB

Tables 4 and 5 contain a presentation of the occurrences in the corpus of English sentences with full inversion,

Table 4. Fronting of adverbials and complements causing partial inversion in the source language but full inversion (or non-inversion, depending on how one extends the verb phrase) in the target language

	Source language	Unacceptable student production	Target language	Frequency of actual errors in positioning subject and verb
a.	Här är också högkvarteret för många tidskrifter och veckotidningar.	Here are also the headquarters of many periodicals and weeklies situated.	Here are also the headquarters of many periodicals and weeklies.	11/150 (7.3%)
b.	'Islands in the Stream' heter en nyutkommen postum roman av Ernest Hemingway.	'Islands in the Stream' is a newly published posthumous novel by E.H. called.	'Islands in the Stream' is the name of a newly published posthumous novel by Ernest Hemingway.	2/118 (1.7%)
c.	Från mitten av 1600-talet daterar sig det berömda docksystemet...	From the middle of the 17th century the famous system of docks dates (10) From ... is the ... docks dated (4)	?From the middle of the 17th century† dates the famous system of docks	14/54 (25.9%)
			Total =	27

†The question mark indicates that fronting of the predicate is not entirely acceptable. A total of 24 students placed the adverbial complement in initial position and, consequently, a more accurate frequency figure for sentence (c) above would be 14/24 (58.3%).

which "... is mainly found in clauses of Types SVA and SVC where a normally postverbal element is so tied to the verb that when that element is 'marked' theme [placed in initial position] the verb is 'attracted' into pre-subject position". The preceding citation is taken from Quirk et al. (1972, p. 949), who go on to point out that this type of inversion is "virtually limited to simple present and past tense verbs ... and to certain stative verbs of position (be, stand, lie, etc.) or dynamic verbs of motion (come, go, fall, etc.).

"Subject-verb inversion [full inversion] does not take place in a clause with a personal pronoun alone as subject ..."

In sentence (a) in Table 4 I have deviated from the model target language translation, which is as follows:

> The headquarters of many periodicals and weeklies are also here.

Granted, this is a more orthodox English sentence than the one I have presented in Table 4. However, my version, too, is a perfectly acceptable English sentence (Christophersen and Sandved 1969, p. 242; Hammarberg-Zetterström 1964, p. 111), and I particularly wanted translation equivalents that, with regard to word order, corresponded formally as closely as possible to the source language text. Besides, fronting of the adverbial provides better transformational integration in the context and precludes a staccato effect:

> There is ... This busy thoroughfare ... has been the home of the British press for more than three hundred years. The headquarters of ... (My version: Here are also the headquarters of many periodicals and weeklies.)

Having all sentences start with Th- according to the model translation above becomes monotonous. Furthermore, we have here a rare situation when we are free

to carry the theme-rheme sequence of the Swedish text over into the English text, and I do not see any reason why this opportunity should not be exploited so that we obtain a sentence in which a climactic effect is achieved through the positioning of the subject conveying new information in an emphatic position at the end of the sentence. (See Table 5 for a better example of this.)

Sentence (c) in Table 4 is not taken from the model translation either. This sentence is listed in Table 2, together with the occurrences in the corpus of Swedish sentences with fronted complements, whose English translation equivalents have post-verbally positioned complements. It was predicted that students would deviate from orthodox English usage and place the complements in initial position according to the source language pattern. As can be seen in Table 4, the consequence for sentence (c) is inversion of the subject and verb, since the verb in the simple present tense is closely tied to its adverbial complement and the subject consists of a heavily modified nominal phrase.

Of the 27 errors in the positioning of subject and verb in the three sentences in Table 4, ten were caused by what we may assume to be hypercorrection or overgeneralization of the major rule demanding non-inversion in declarative English sentences in that ten students wrote ?<u>From the middle of the 17th century the famous system of docks dates</u>. These ten errors have been included in the 14 errors in sentence (c), but again I would like to point out the necessity of a tolerance test to ascertain the degree of deviation here.

The remaining 17 errors in Table 4 had native language interference as their source. This is remarkable because there does not seem to be any contrastive sequential organization of sentence con-

stituents. However, if the verb phrases are extended with auxiliaries, the latent contrast between the source language and the target language becomes manifest:

Source language	Target language
Här var också högkvarteret för många tidskrifter och veckotidningar beläget.	Here were also situated the headquarters of many periodicals and weeklies.
'Islands in the Stream' hade en nyutkommen postum roman av E.H. hetat.	'Islands in the Stream' had been the name of a newly published posthumous novel by E.H.
Från mitten av 1600-talet har det berömda dock-systemet daterats.	?From the middle of the 17th century, the famous system of docks has been dated.

I had not foreseen that some students would translate Sw. är in sentence (a) in Table 4 with Eng. is situated, but this is exactly what many students did, which resulted in 11 of the following mistakes:

*Here are also the headquarters of many periodicals and weeklies situated.
(Sw. Här är också högkvarteret för många ... beläget.)

Similarly, many students have translated Sw. heter in sentence (b) with Eng. is called, which caused two students to get into the same predicament as the 11 students just mentioned, in that they wrote according to the Swedish pattern with partial inversion:

*'Islands in the Stream' is a newly published posthumous novel by Ernest Hemingway called.

Finally, the four remaining errors in sentence (c) followed the pattern of the errors in sentences (a) and (b):

*From the middle of the 17th century is the famous system of docks dated.

Table 5. Full inversion used for emphasis in both the source language and the target language

Source language	Unacceptable student production	Target language	Frequency of actual errors in positioning subject and verb
En grupp samhällsförbättrare, bland vilka fanns ingen mindre än John Stuart Mill, filosofen och ekonomen, var angelägna om ..	... among whom no less a person than John Stuart Mill, the philosopher and economist, was ...	A group of social reformers, among whom was no less a person than John Stuart Mill, the philosopher and economist, were eager to ...	4/100 (4%)

It seems appropriate to discuss the errors in Table 5 in connection with those in Table 4. The sentence in Table 5 is an illustration of what Quirk et al. (1972, p. 943) describe as the principles of end-focus and end-weight working together. End-focus is defined as being "the tendency to place new information towards the end of the clause", whereas end-weight is defined as being "the tendency to reserve the final position for the more complex part of a clause or sentence". Despite the correspondence here between the source language and the target language with respect to sequential organization of the sentence constituents, this sentence proved to be problematic for the students, but several of them got out of the difficulties by using paraphrases, and thus the low frequency of four errors in the positioning of subject and verb should be considered in this light. The four errors were caused by intralingual interference. The students had overgeneralized the rule demanding non-inversion of declarative English sentences and written

> *... among whom no less a person than John Stuart Mill, the philosopher and economist was ...

5.4 UNPREDICTED DIFFICULTIES

The frequency of errors in the positioning of major sentence constituents caused by unpredicted difficulties is conspicuously low, viz. seven compared with 250 errors resulting from difficulties that had been predicted.

Table 6 contains an account of the four errors in the positioning of subject and verb owing to

difficulties that had not been predicted. Listed are also improved versions (taken from the model translations) of the erroneous student translations.

Table 6. Unpredicted errors in positioning subject and verb

	Samples of unacceptable student production	Improved versions	Frequency of actual errors
a.	And when Macmillan and Eisenhower negotiated at Chequers in 1959 declared a prominent British deputee, who stayed there then that the library, ...	... an important British official, who ..., declared that ...	1/153 (0.7%)
b.	Perhaps had he tiptoed down ...	He had perhaps crept down ...	3/153 (2.0%)
		Total = 4	

As opposed to the erroneous target language sentences (a) and (b) in Table 6, the Swedish originals contained no fronting of adverbials, and, accordingly, the Swedish word order was non-inverted. Apparently, the erring students have self-imposed difficulties, namely by placing adverbials in initial positions. The resulting construction represents a major difficulty for Swedish learners on the basis of differences between Swedish and English in the subsequent positioning of subject and verb: where Swedish has partial inversion, English usually has non-inversion. There has been reason to discuss this several times already, and again as in the 27 errors in Table 1 and in 17 of the errors in Table 4

the exact word order pattern of Swedish declarative sentences with fronted adverbials or complements

$$\begin{Bmatrix} A \\ C \end{Bmatrix} + \begin{Bmatrix} Aux + S + V \\ V + S \end{Bmatrix}$$

is found in the target language production of the students. Again, it can be established that the Swedish distribution for partial inversion of the subject and verb has been carried over into the grammatical system of the target language. Moreover, it can be reported that this type of interference occurred in student translations with a large number of errors. However, in Table 6 the Swedish interference has gone farther than in Tables 1 and 4, because in sentence (a), a non-auxiliary verb, which does not normally occur before the subject in English sentences, has been inverted. The difficulty was self-inflicted, as can be observed below, where the Swedish original and the model translation are given. There is no fronting of the adverbial, and the subject occurs in its normal position at the beginning of the Swedish as well as of the English sentence below. Observe, also, that sentence (a) in Table 6 is not a translation equivalent of the Swedish sentence below, hence sentence (a) is unacceptable in two senses.

Source language	Target language
Och en hög brittisk ämbetsman som var med på Chequers 1959 när Macmillan och Eisenhower hade sina förhandlingar där förk.arade att ...	And an important British official who was at Chequers in 1959 when Macmillan and Eisenhower had their negotiations there said that the library ...

There is a difference between the transitive verb <u>come across</u> used in the sense of 'encounter' in sentence (d) in Table 1 and the verb <u>declare</u> in sentence (a) in Table 6. It is conceivable that the latter verb might occur before the subject in

a clause reporting direct speech:

> "I was not there", said one of the robbers.
> "And I was not either", declared another.
> (Quirk et al. 1972, p. 949)

Admittedly, the explanation is a little far-fetched, especially since declare is used reporting indirect speech in sentence (a). Still, it is possible that associations such as these may have been contributing factors in causing this error. If the verb phrase in sentence (a) of Table 6 had been come across or encounter plus a direct object, the student might not have inverted the subject and the verb.

The difference between Swedish and English declarative sentences with respect to the mutual positioning of subjects and non-auxiliary verbs in the simple present or past tense was tested on only one[23] (December 1970) of the seven test occasions yielding the corpus for this investigation. The number of students participating in the translation examination in December 1970 was 118, and the consequence of this is that, whereas 118 of the total number of 769 trial subjects were tested once, and only once, on the word order category just referred to, the remaining 651 of the subjects were not tested on this extremely frequent English construction. This, then, is an additional illustration of the necessity in error analysis of using a corpus made up of examinations designed especially to test the topic under investigation. It is my opinion that the lack of evidence in my results of the "systematic nature of the stages of foreign language acquisition" (Nemser 1969, p. 5) can be largely attributed to various shortcomings of my corpus.

Besides the difference in frequency between the errors that were predicted through contrastive analysis and those that were not possible to predict, there is an additional difference: the predicted errors are systematic and possible to explain, whereas the un-

predicted errors are random errors that are difficult or impossible to explain.

Table 7 contains a presentation of the three errors in the positioning of complements that were caused by difficulties that were not foreseen. It should be pointed out that the Swedish original had the same ordering of complements as the improved versions seen in Table 7, and that consequently there were no contrastive or interlingual difficulties.

The cause of the errors in sentence (a) might possibly be hypercorrection. Swedish sentences with parts of the predicate in initial position often correspond to English sentences with the entire predicate in end position. The English pattern might have been overgeneralized in sentence (a).

The error in sentence (b) is interesting and puzzling. From the Swedish original to be translated into English:

> ... huset är en thrillerförfattares dröm med hemliga dörrar, spiraltrappor, en fängelsehåla på vinden, Napoleons skrivbord på Sita Helena och Cromwells krokiga svärd som han bar i slaget vid Marston Moor

the erring student has constructed another acceptable Swedish sentence:

> ... huset är med sina hemliga dörrar ... en thrillerförfattares dröm.

It is possible that this particular student felt the need to move the modifying prepositional phrase closer to its head. Of course, this could easily be done, and the result would be the following acceptable English sentence:

> ... the house with secret doors, spiral staircases, a dungeon in the attic ... is a thriller-writer's dream.

This is one of many examples of an obvious tendency on the part of the test subjects to complicate things unnecessarily and make matters harder for themselves.

Table 7. Unpredicted errors in positioning complements

	Samples of unacceptable student production	Improved versions	Frequency of actual errors
a.	The choice of a new boss of the FBI will be to President Nixon, who probably must try to find a successor for Hoover, one of the most important decisions he will be forced to make during his presidency.	For President Nixon, who will probably have to find a successor to Hoover, the choice of a new head for the FBI will be one of the most important decisions ...	2/98 (2.0%)
b.	... because the house is with its secret doors, winding stairs, a prisoners-room in the atic, Napoleon's writing table at St. Helena and Cromwell's bended sword which he wore at the battle of Marston Moor, the dream of a thrillerwriter.	... because the house is a thriller-writer's dream with secret doors, spiral staircases, a dungeon in the attic, the desk ...	1/153 (0.7%)
		Total =	3

5.5 HIERARCHICAL ORDERING OF CAUSES OF ERRORS

Before leaving the errors in the positioning of major sentence constituents, which is the word order category that has received the main emphasis in this study, it might be of interest to look at Table 8, which contains a hierarchical ordering of the causes of errors in the positioning of major sentence constituents. With the help of contrastive analysis of the two word order systems, the source language system versus the target language system, it was possible to explain all but 1 of the total number of 257 errors. What is particularly interesting is the fact that intralingual interference caused slightly more errors than interlingual interference.

Table 8. Hierarchical order of causes of the total number of 257 errors in the positioning of major sentence constituents

Hierarchical order	Number of errors	Causes of errors	Types of errors
1	131	Intralingual interference	Overgeneralization of major grammatical rules or patterns in the word order of the target language: a. overgeneralization of the rule demanding non-inversion of subject and verb in declarative English sentences (129 errors) b. overgeneralization of the pattern of post-verbally positioned complements (2 errors)
2	125	Interlingual interference	Source language interference in the word order of the target language: a. partial inversion of subject and verb according to the source language grammatical system instead of non-inversion according to the target language grammatical system (48 errors) b. fronting of complements (77 errors)
3	1	Unknown	Deviations in the ordering of complements

4 ADVERBIAL AND OTHER ERRORS

4.1 INTERLINGUAL DIFFICULTIES

Tables 9-12 contain presentations of difficulties in translating the Swedish texts into English predicted on the basis of differences between the two languages. These tables also show the frequency of actual errors caused by such difficulties. Tables 9, 10, and 11 refer to the positioning of adverbs and adverbial expressions, and Table 12 refers to the mutual positioning of the head and modifier in a nominal phrase.

In classifying adverbs, I have employed the positional terms used by Christophersen and Sandved (1969) and Jacobson (1970, p. 139) to the effect that "any position before the subject is called front-position, any position between the subject and the main verb mid-position, and any position after the main verb end-position". However, with respect to examples (c), (f), and (g) in Table 10, Jacobson's definition of the term "mid-position" must be modified in accordance with Christophersen and Sandved (1969, p. 164): "It is important to realise what is meant by the term mid-position. This term will be reserved here for the position ... immediately before the verb, and if the sentence contains an auxiliary, between the latter and the verb.

"If there are two or more auxiliaries, the adverbial generally follows the first ... . But it may be placed later if it is more closely linked semantically with the verb ... . The word be should be noted in particular here. It normally precedes the adverbial even in cases where it is not used as an auxiliary ... [as in the sentence:] They are usually at home."

Table 9. The occurrences in the target language model translations of end-positioned adverbs and adverbial phrases that occupy non-corresponding positions in the source language text

	Source language	Unacceptable student production	Target language	Frequency of actual errors
a.	... inte främst får en att tänka på en London-gata ...	... in the first place does not make you think of ...	The name of Fleet Street does not make one think primarily of a London street ...	4/150 (2.7%)
b.	... kan man genast se ...	... one can always immediately see ...	If one is interested in books one can see at once ...	3/96 (3.1%)
c.	Tidningar och veckotid-skrifter brukar inte heller läsas mer än en en gång.	Magazines ... are not either usually read more than once.	Newspapers and weeklies are not usually read more than once either.	4/96 (4.2%)
d.	... har Londons betydelse som hamnstad allt mer ökat.	... has more and more increased.	... the importance of London as a seaport has increased more and more.	10/54 (18.5%)
e.	Denna livligt trafikerade huvudgata, ... , har i över 300 år varit den brittiska pressens hem-vist.	This ... street ... has for more than 300 years been the home of ...	This busy thoroughfare ... has been the home of the British press for more than three hundred years.†	92/150 (61.3%)
f.	... vad som i dag kallas the Pool of London.	... what today is called the Pool of London.	... what is called today the Pool of London.	40/54 (74.1%)
			Total =	153

†This type of adverbial is sometimes front-positioned in English sentences, and, consequently, example (e) could have been presented in Table 11 under front- or end-positioned adverbials. But for thematic reasons (This busy thoroughfare being the theme in example (e)) fronting of the adverbial was not offered as an alternative in the model translation. For this reason, it was decided that the best policy would be to follow the principle of classification that was stated on p. 3 of this paper: "The classification has been based on the target language, and as far as possible, on the model translation ... ."

Table 10. The occurrences in the target language model translations of post-auxiliary and post-verbally mid-positioned adverbs that occupy non-corresponding positions in the source language text

	Source language	Unacceptable student production	Target language	Frequency of actual errors
a.	... att "kommunisterna" inte övertog Amerika.	-	... that "the Communists" did not take over America.	0/98 (0%)
b.	... att han inte hade några planer ...	-	... that he is not planning ...	0/98 (0%)
c.	Att en bok inte är värd att läsas ...	That a book not is worth reading ...	The fact that a book is not worth reading ...	7/96 (7.3%)
d.	Det har gått ända därhän att namnet Fleet Street inte främst får en att tänka på en Londongata utan på ...	... that the name of Fleet Street not makes one think primarily of a ... (62) /not make one think primarily of a ... (15)***	Things have gone so far that the name Fleet Street does not make one think primarily of a London street but of ...	77/150 (51.3%)
e.	... som sannolikt måste finna ...	who probably will have to find ...	... who will probably have to find ...	46/98 (46.9%)
f.	... som sedan stängs. (i.e. sedan blir stängd)	... which then are closed.	... which are then closed.	37/54 (68.5%)
g.	... som sedan dess ständigt (har) utbyggts.	which constantly has been extented.	... and since then it has been continuously enlarged.**	15/54 (27.8%)
			Total =	182

* Examples (c) and (f).

** The adverbial is placed after the second auxiliary and immediately in front of the main verb because it is semantically tied to the main verb.

***The classification of these 77 errors under word order errors may arouse objections, and perhaps justifiably so. But there is a contrastive difference between Swedish and English with respect to the positioning of not (Sw. 'inte') in subordinate clauses, which, apparently, the 77 students were not aware of. The Swedish adverb 'inte' is placed before the finite verb, whereas the English adverb not is placed after the finite verb.

Table 11. The occurrences in the target language model translations of front- or end-positioned adverbs and adverbial clauses that occupy non-corresponding positions in the source language text

Source language	Unacceptable student production	Target language	Frequency of actual errors
... som sedan dess ständigt utbyggts.	... which since then has been constantly enlarged.	... and since then it has been constantly enlarged. /... and it has ... enlarged since then.	29/54 (53.7%)

Table 12. Modifier and nominal occupying contrasting positions in the source language and the target language

Source language	Unacceptable student production	Target language	Frequency of actual errors
Själv förklarade Hoover ...	Hoover explained himself ...	Hoover himself stated ...	3/98 (3.1%)

With respect to the high frequency of errors in the positioning of adverbials, I would like to point out that it is my impression that about half of the deviations classified as such errors in this study would probably be considered acceptable by native speakers of English. Jacobson (1970) discusses the acceptability of various positionings of adverbs and asserts that "their probability of occurrence varies a great deal, i.e. certain versions have a much greater chance of actually being used by native speakers and writers than others. This probability depends primarily on the importance that is attached to each of the three adverbs in different contexts. Interwoven with this factor are, however, several others, especially medium and style. Of the two linguistic media, the spoken and the written language, the former offers a wider range of contextual possibilities as the use of such suprasegmental phonemic features as stress, pitch, and juncture allows of greater variety. Thus versions which would hardly be acceptable in writing can very well be used in speech. In both media a number of styles, reflecting the different social roles of language, can be distinguished, the principal dichotomy being that between formal and informal style. Naturally both speakers and writers are less observant of the way in which they order their words when they are using an informal style than when a more formal style is required." (Jacobson 1970, pp. 139, 140).

According to Jacobson, who used two native speakers of English as informants in his investigation of the acceptability of different adverbial positionings, "errors" such as the 46 "errors" in example (e) in Table 13[4],

... who probably will have to find ...
[... who will probably have to ...]

are, in fact, not errors but perfectly acceptable current usage (Jacobson 1970, p. 140). Some grammars do not make allowances for this usage, whereas others do. Among the latter are Christophersen and Sandved (1969, p. 164): "This account is based on British usage. In American English adverbs can freely be placed before or after an auxiliary:

> BrE: she has probably seen it anyway.
> AmE: (The same, or) She probably has seen it anyway."

Initially, it was not my intention to include such deviations in my tabulations of errors; but through discussions with English teachers, I eventually came to realize that, in spite of the documentation to the contrary, many teachers do not regard the usage illustrated above as acceptable. This represents a drastic example of divided usage, so I decided to include these errors after all and to call attention to the controversy that apparently exists with regard to this matter. There are, however, many more instances of divided usage in the positioning of adverbs, and, in fact, there seems to be considerable confusion in this respect even among native speakers. It may be that this is an area of grammar and usage where norms are particularly difficult to establish. Consequently, adverbs will cause problems in the teaching situation, and there is certainly evidence of this in the student translations. Adverbs have been a constant source of difficulty for most of the students used as test subjects in this investigation, and it is the category with the highest frequency of errors (Table 14).

4.2 PREDICTED VERSUS UNPREDICTED DIFFICULTIES

Table 13 contains a hierarchical ordering of the frequencies of all word order errors that were found

in this investigation with the exception of errors in the positioning of major sentence constituents, which are accounted for on pages 11-38. The frequency of errors caused by difficulties that were predicted and the frequency of errors caused by difficulties that were not predicted have been reported separately. It should be mentioned that 15 of the 55 unpredicted errors in mid-positioned adverbs are of the same type as the 46 errors in example (e) in Table 10. This type of deviation was discussed on page 44.

Table 13. Predicted versus unpredicted errors in the positioning of adverbs, modifiers, and prepositions

Hierarchical order	Type of error	Number of predicted errors	Number of unpredicted errors
	A. ADVERBS		
1	Mid-positioned	182	55
2	End-positioned	153	24
3	End- or front-positioned	29	5
4	Front-positioned	-	13
	B. NP-MOD		
5	Mutual positioning of head and modifier(s) in nominal phrases	3	10
	C. VP-PREP		
6	Positioning of prepositions in verb phrases	-	1
	Total number of errors	367	108

The low frequency of errors in nominal phrases can be attributed partly to the fact that genitive constructions did not qualify as word order errors, since their correction involved a more complex process than a mere change of word order, and partly to the shortcomings of my corpus, which was not designed especially to investigate learners' treatment of word order. In all categories of word order errors, the frequency of predicted errors is higher than the frequency of unpredicted errors except for ten unpredicted versus three predicted errors in nominal phrases and one unpredicted versus no predicted errors in the positioning of prepositions.

5 CONCLUSIONS

On pages 6 and 7 I have explained how my corpus, which consisted of translation examinations, necessitated the approach that I have used in investigating learner behaviour. This is, in effect, an approach that combines contrastive analysis and error analysis. The consequences of this approach turned out to be a display of results that contradict the opinions of many linguists: "... the predicting power of contrastive analysis is now seriously questioned ..." (Buteau 1970, p. 134)[28]. These "contradictory" results can be observed in Table 14, where it is demonstrated that the predictive power of contrastive analysis is very strong indeed: of the total number of 732 errors found in this survey of 769 university students' treatment of English word order, 84.3% were predicted, whereas only 15.7% were not predicted.[29]

Many linguists have stressed the usefulness of contrastive analysis in explaining the causes of learners' errors in target language production,[30] and my results support their opinions. Table 8 illustrates that contrastive analysis was almost 100% effective in explaining errors.

As I have stated above, I found contrastive analysis to be very helpful in conducting a study of learner behaviour in a contact situation between two languages. However, it is important to realize that, with a different topic than word order and with other languages than Swedish and English to work with, it is possible that contrastive analysis would prove less useful.

Some valuable information on learner behaviour with important implications for teaching English to Swedish students at the university level was obtained. A category of word order that has obviously

Table 14. Hierarchical order of errors and the relationship of the frequency of predicted versus unpredicted errors to the total number of errors

Hierarchical order	Errors in positioning	Frequency of predicted errors	Frequency of unpredicted errors	Total number of errors
1	Adverbs and adverbial expressions	364 (80.0%)	97 (21.0%)	461
2	Subject and verb	173 (97.7%)	4 (2.3%)	177
3	Complements	77 (96.3%)	3 (3.8%)	80
4	Modifier(s) and head in nominal phrases	3 (23.1%)	10 (76.9%)	13
5	Prepositions in verb phrases	0 (0%)	1 (100%)	1
	Total =	617 (84.3%)	115 (15.7%)	732

received too little emphasis in teaching is fronting versus non-fronting of complements. The students need more instruction in how Swedish and English differ in this respect.

Table 3 illustrates that, at the university level, Swedish learners of English must have more practice in producing English sentences initiated by negative or restrictive adverbials. They must learn that partial inversion of subject and verb is obligatory in this type of declarative English sentence. The stylistically conditioned full inversion is much less frequent, and since it is usually optional as well, it represents a relatively unimportant category of word order.

The terms and patterns of "partial inversion", "full inversion", and "non-inversion" should be explained and demonstrated in detail to students. And students should be made cognizant of how powerful the Swedish pattern of partial inversion is in interfering with English production by native speakers of Swedish. The Swedish terms "rak ordföljd", "omvänd ordföljd", and "frågeordföljd" that have customarily been employed in teaching are misleading. They have not been effective in clarifying the grammatical processes that are involved for the students, which is evident from the prevalence of erroneous constructions of the type *For more than two thousand years has London been an important trading centre in the students' translations. The use of the term "frågeordföljd" for partial inversion is particularly unpedagogical, because it is doubtful whether Swedish learners will identify this term with the word order used in declarative Swedish sentences of the type I mer än två tusen år har London varit en viktig handelsplats. It may require a great deal of effort on the part of a Swedish learner to make this identification, and yet it is an identification

that is necessary for the learner to make in order to be observant of and to ward off the type of source language interference that is illustrated in the erroneous sample of student production above.

In conclusion, it should be pointed out that attempts to distinguish "evolutionary stages" of approximative systems (Nemser 1969, p. 7) were not successful. However, I hope that this may prove to be feasible with a corpus comprised of large, individual samples of learner production in the target language in which the different aspects of English word order are systematically tested.

NOTES

[1]ABI is the designation of the basic course, which spans over one year and makes the graduate eligible to teach English in Swedish schools.

[2]There were actually 348 students participating in April 1970, but only 150 were used as subjects in this investigation. They were selected alphabetically on the basis of surnames.

[3]"p." stands for "error points". 11 points gave the grade "pass" according to the following scale: 0-8 = excellent, 9-13 = pass, 14- = fail.

[4]"The target language is that in which communication is being attempted; in the case of a learner it is the language he is learning when he uses it" (Nemser 1969, p. 3).

[5]For a brief discussion on the prescriptive versus descriptive attitudes of different grammatical schools, see Johansson (1972a, p. 1 and 1972b). For an extensive documentation, see Dineen (1967).

[6]The non-comprehensiveness of my corpus (see p. 6) delimited this further to positioning of major sentence constituents in declarative sentences.

[7]To state one illuminating example: There were no interrogative sentences in my corpus!

[8]"The source language is that acting as a source of interference (deviations from the norm of the target language) ... it is normally the learner's native language" (Nemser 1969, p. 3).

[9]Kirkwood (1966, p. 178) suggests that at "a more advanced level of language learning, contrastive analysis through translation — translation as a means and not as an end in itself ... is a way of bringing to the student's attention points of difference and conflict on a semantic and syntactic

level ...". This is the only way that translation ought to be used in foreign language teaching, I believe, and consequently a translation test especially set up to test a certain grammatical category would be in order.

[10] For a review of the use of contrastive analysis in foreign language teaching, see Johansson (1972a).

[11] Catford (1965, pp. 27, 50) introduced the terms translation equivalence and formal correspondence. He defined the terms as follows: "... translation equivalence occurs when an SL and a TL text or item are relatable to (at least some of) the same features of substance ... . A formal correspondent, on the other hand, is any TL category (unit, class, structure, element of structure, etc.) which can be said to occupy, as nearly as possible, the 'same' place in the 'economy' of the TL as the given SL category occupies in the SL". The terms have subsequently been used by linguists associated with the Yugoslav Serbo-Croatian-English Contrastive project (see e.g. Spalatin 1969; Ivir 1969, 1970; Liston 1970).

[12] PAKS = Projekt für Angewandte Kontrastive Sprachwissenschaft

[13] In the formula on p. 11, parentheses indicate that a grammatical element is optional, whereas braces indicate that a choice must be made among the several grammatical elements within the braces. What is said in the formula, then, is that verbs may or may not take either complements or objects, and that objects may or may not occur together with a complement (Chomsky 1957, p. 110).

[14] For a discussion of the historical development of the use of word order versus the use of inflection, see Fries (1940, pp. 247-262) and Sapir (1921, pp. 166, 167). See also Sapir (1921, pp. 62-64) for an analysis of word order as a grammatical process.

[16] For a detailed discussion of this, see Quirk, Greenbaum, Leech and Svartvik (1972, pp. 935-972) and Bibović (1971). In an analysis of the textual function of language, Halliday (1970, p. 161) writes: "The English clause consists of a 'theme' and a 'rheme'. The theme is another component in the complex notion of subject, namely the 'psychological subject'; it is as it were the peg on which the message is hung, the theme being the body of the message. The theme of a clause is the element which, in English, is put in first position; in (28 i-v) the theme is the item outside the brackets, what is inside being the rheme:

(28 i) I (don't know)
(28 ii) yesterday (we discussed the financial arrangements)
(28 iii) his spirit (they could not kill)
(28 iv) suddenly (the rope gave way)
(28 v) people who live in glasshouses (shouldn't throw stones)".

Instead of the terms "theme" and "rheme", Lyons (1968, p. 336) employs the terms "... the topic and ... the comment according to the given new criterion".

[16a] In English as opposed to Swedish, only a small number of main verbs occur in this position; do-periphrasis is usually necessary and the pattern becomes Aux + S + V.

[17] A = adverb or adverbial expression. See note 13 for an explanation of the formula.

[18] This term is defined in note 11.

[19] For a comparison between Chomsky's "Aspects-type" grammar (1965) with an interpretive semantic component and "post-Aspects" generative grammars with a generative semantic component, see Lyons (1970b, pp. 135-138). See also Campbell and Wales (1970, p. 249): "... the current tendency for linguists to

describe the deepest levels of grammatical structure in semantic terms (cf. Chafe 1967, 1968; Anderson 1968; McCawley 1969). Clearly, semantically based transformational grammars hold out greater promise for the characterization of communicative competence than do grammars of the type discussed in Chomsky (1965)".

During recent years, numerous investigations of the recollection and perception of sentences have been undertaken, and there is evidence that semantics plays a more fundamental role than syntax in linguistic operations performed by individuals. See, e.g., the investigation by Slobin reported by Miller and McKean (1968). See in addition Johnson-Laird (1970, p. 262): "A sentence has structure and meaning and this makes it easier to remember than the same set of words in random order. But a sentence is a small element of discourse in real life and if we remember anything about it at all, we remember its sense rather than its syntax".

[20] Obviously, the target language proficiency of the students cannot be assessed merely on the basis of how well they did on a single translation examination. Yet, some generalizations to this effect can be made. Thus, it can be assumed that a student who received more than 20 error points on his or her translation must have less proficiency in the target language than a student who received 8 or less.

[21] For an attempt to utilize transformational grammar in teaching, see Ellegård (1971). Walmsley (1970) has used transformational theory in translations.

[22] Chomsky's concepts "competence" and "performance" have been discussed by many linguists. See, e.g., Hovdhaugen (1971, pp. 6-8, 123 ff.), Lyons (1968, pp. 51, 52; 1970a, pp. 38, 39; 1970b, pp. 27, 28).

Campbell and Wales (1970, pp. 245 ff.) discuss three senses of the concept of competence, but generally competence is considered to be linguistic knowledge stored in the human brain and the idealized raw material, which is the primary object for linguistic study. Performance, on the other hand, is a reflection of linguistic competence, but extra-linguistic factors, such as memory lapses or environmental conditions, also play a role in performance.

Thorne (1970, p. 186) illustrates linguistic competence in the following way: "In constructing a generative grammar of a language the linguist is attempting to construct a model of the native speaker's 'linguistic competence'; that is, of what he knows about the structure of his language. An obvious and important manifestation of linguistic competence is the English speaker's ability to recognise that some word strings, like The children are asleep, are well-formed (i.e., 'grammatical') English sentences, while others, like Asleep children the are, are not. That is to say, anyone who speaks English possesses knowledge which enables him to recognize on hearing the first of these utterances that it has the syntactic structure of an English sentence and, on hearing the second, to recognize that it does not. This, in turn, is connected with the fact that he will understand the first while the second will appear meaningless to him".

[23] Sentence (c) in Table 7, which is from the May 1970 test, cannot really be considered as a test of the category referred to, because none of the 98 participating students placed the reflexive pronoun of that sentence in initial position.

[24] The errors listed in Tables 9-13 will not be dealt with in detail here because of the limited space available. For an analysis of some adverbial positions, see Sven Jacobson's article "An Example

of the Positioning of Concurrent Adverbs" (1970), which was cited on page 43. See also Jacobsson 1971, which contains many examples of the generation of adverbs and adverbial expressions, especially pp. 72-75.

[25] See, e.g., Lee (1968); Dušková (1969); Kenner (1969).

[26] As I see it, contrastive analysis used to predict learners' difficulties in foreign language acquisition must consider both the source language and the target language systems individually as well as together in a comparison. To a certain extent, contrastive analysis can thus be used to predict potential difficulties within the target language system, such as exceptions from major grammatical rules, as has been done in Tables 3, 4, and 5 of this paper. But even if it is insisted that such predictions of learners' problems lie outside the realm of contrastive analysis, and if, consequently, the errors predicted in this way are subtracted and added to the number of unpredicted errors, the evidence arguing for the power of contrastive analysis in predicting learners' problems would still be considerable: 67% predicted errors versus 33% unpredicted errors.

[27] See, e.g., Dušková (1969) and Buteau (1970).

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